

<b>Interview Summary</b>	Application No.	Applicant(s)	
	10/811,077	ETZIONI ET AL.	
	Examiner Freda A. Nelson	Art Unit 3639	

All participants (applicant, applicant's representative, PTO personnel):

(1) Freda A. Nelson. (3) \_\_\_\_\_.

(2) steven Lawrenz. (4) \_\_\_\_\_.

Date of Interview: 21 October 2005.

Type: a) Telephonic b) Video Conference  
c) Personal [copy given to: 1) applicant 2) applicant's representative]

Exhibit shown or demonstration conducted: d) Yes e) No.  
If Yes, brief description: \_\_\_\_\_.

Claim(s) discussed: 1-16 and 68-83.

Identification of prior art discussed: NONE.

Agreement with respect to the claims f) was reached. g) was not reached. h) N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: Attorney agreed to cancel claims 17-67.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN ONE MONTH FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.

  
Examiner's signature, if required

## Summary of Record of Interview Requirements

### Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record

A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

### Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews

#### Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

#### 37 CFR §1.2 Business to be transacted in writing.

All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:

- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:

- 1) A brief description of the nature of any exhibit shown or any demonstration conducted,
- 2) an identification of the claims discussed,
- 3) an identification of the specific prior art discussed,
- 4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
- 5) a brief identification of the general thrust of the principal arguments presented to the examiner,  
(The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
- 6) a general indication of any other pertinent matters discussed, and
- 7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

### Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

I hereby certify that this correspondence is being transmitted via facsimile to the United States Patent and Trademark Office at (571) 273-7076 on:

Date: 10/21/05 Signature:   
(Nadin Hamoui)

Docket No.: 430558001US1  
(PATENT)

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:  
Oren Etzioni et al.

Application No.:	10/811,077	Conf. No.:	8067
Filed:	March 26, 2004	Art Unit:	3639
For:	PERFORMING PREDICTIVE PRICING BASED ON HISTORICAL DATA	Examiner:	Freda A. Nelson

### SUPPLEMENTAL AMENDMENT

MS Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

### INTRODUCTORY COMMENTS

Please amend the above-identified U.S. patent application as follows:

**Amendments to the Claims** are reflected in the listing of claims which begins on page 2 of this paper.

**Remarks/Arguments** begin on page 13 of this paper.

[43055-8001-US0100/SL052940.184]

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AMENDMENTS TO THE CLAIMS

1. (Previously Presented) A method for a computing system of an organization to provide information about airline tickets to customers by using predictive pricing that is based on historical airline ticket prices, the method comprising:

in the computing system, retrieving information about prices for airline tickets that were previously offered to customers for multiple airline flights, each of the previously offered airline ticket prices specified by an airline ticket provider unrelated to the organization;

in the computing system, for each of the multiple airline flights, automatically determining pricing factors for the airline flight that are used to determine prices for the airline flight by the unrelated airline ticket provider for the airline flight, by

identifying from the retrieved airline ticket price information multiple previously offered prices for airline tickets for the airline flight; and

analyzing the identified previously offered airline ticket prices to detect the pricing factors for the airline flight, the pricing factors corresponding to changes in the identified previously offered airline ticket prices; and

in the computing system, after the automatic determining of the pricing factors for the airline flights, and for each of multiple requests that are each from a customer for information about airline flights, automatically advising the customer, by

identifying one or more of the multiple airline flights that each satisfy criteria in the request from the customer;

retrieving information about current prices offered for the identified airline flights that are specified by the unrelated airline ticket providers for the airline flights;

predicting future prices that will be offered for the identified airline flights by the unrelated airline ticket providers for those flights, the predicting based at least in part on the determined pricing factors for those airline flights;

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for each of the identified airline flights, predicting a time at which an airline ticket for the identified airline flight will be available for a lowest price, based at least in part on the predicted future offered prices and the current offered prices; and

using the predicted times to advise the customer related to a current purchase of one or more airline tickets.

2. (Previously Presented) The method of claim 1 including automatically determining one or more sell-out factors for each of the multiple airline flights based on information about prior instances of the airline flights selling out, and wherein the prediction of each time is further based on a predicted sell-out time for the airline flight, the predicted sell-out time being based at least in part on the determined sell-out factors for that airline flight.

3. (Previously Presented) The method of claim 1 wherein a predicted future offered price for one of the identified airline flights is lower than the current offered price for the one airline flight, wherein the time predicted for the one identified airline flight is at a later time corresponding to the predicted future offered price, and wherein the using of the predicted times to advise a customer related to a current purchase of an airline ticket includes currently selling an airline ticket for the one identified airline flight to the customer at a price that is lower than the current offered price for that airline flight but at least as high as the predicted future offered price for that airline flight, and wherein the using of the predicted times to advise the customer related to the current purchase of the airline ticket further includes delaying a purchase of that sold airline ticket from the unrelated airline ticket provider for that flight until the later time.

4. (Previously Presented) The method of claim 1 wherein a predicted future offered price for one of the identified airline flights is higher than the current offered price for the one airline flight, wherein the time predicted for the one identified airline flight is a current time, and wherein the using of the predicted optimal airline

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ticket purchase times to advise a customer related to a current purchase of an airline ticket includes notifying the customer that the current offered price for the one airline flight is a price favorable to the customer, such that the customer should purchase an airline ticket for the one identified airline flight at the current time.

5. (Original) The method of claim 1 wherein one of the requests from a customer is to be alerted if prices for an indicated airline flight are predicted to increase, wherein at a later time a predicted future offered price for the indicated airline flight is determined to be higher than a price that is currently offered at the later time for the indicated airline flight, and wherein the using of the predicted optimal airline ticket purchase times to advise the customer related to a current purchase of an airline ticket includes alerting the customer at the later time to purchase an airline ticket for the indicated airline flight at that time.

6. (Previously Presented) The method of claim 1 wherein a predicted future offered price for one of the identified airline flights is lower than the price currently offered for the one airline flight at a current time, wherein the time predicted for the one identified airline flight is at a later time corresponding to the predicted future offered price, and wherein the using of the predicted optimal airline ticket purchase times to advise a customer related to a current purchase of an airline ticket includes notifying the customer at the current time to purchase the airline ticket at the later time.

7. (Original) The method of claim 1 wherein a predicted future offered price for one of the identified airline flights is higher than the current offered price for the one airline flight, and wherein the using of the predicted optimal airline ticket purchase times to advise a customer related to a current purchase of an airline ticket includes currently offering to sell an airline ticket for the one identified airline flight to the customer at a current sales price and offering to provide at least a partial refund if an actual future offered price for that airline flight is lower than the current sales price.

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8. (Original) The method of claim 1 wherein one of the requests from a customer is to pay a specified price for an indicated airline flight at an indicated time, the specified price being lower than a current offered price for the indicated airline flight at the indicated time, wherein a predicted future offered price for the indicated airline flight at the indicated time is at least as low as the specified price, and wherein the using of the predicted optimal airline ticket purchase times to advise a customer related to a current purchase of an airline ticket includes currently selling an airline ticket for the indicated airline flight at the indicated time to the customer at the specified price but delaying a purchase of that sold airline ticket from the unrelated airline ticket provider for that flight until a later time.

9. (Previously Presented) The method of claim 1 wherein the multiple customer requests correspond to prior requests for which the customers have already purchased airline tickets at prior times, and wherein the use of the predicted times to advise a customer is performed at a current time but in a manner as if the predicting of the future prices and the predicting of the optimal time were performed at those prior times, so as to determine at the current time if the customers could likely have completed the purchases of the airline tickets near the prior times but at lower prices.

10. (Original) The method of claim 1 wherein multiple of the customer requests include requests to purchase airline tickets for an indicated airline flight at an indicated time, and including fulfilling those requests in an aggregate manner so as to hedge against price changes, the fulfilling including currently purchasing a subset of the requested airline tickets from the unrelated airline ticket provider for that flight and delaying purchasing of the other requested airline tickets from the unrelated airline ticket provider for that flight until a later time.

11. (Previously Presented) The method of claim 1 wherein the organization is an airline that supplies airline tickets for airline flights of the airline, wherein the retrieved information about airline ticket prices that were previously offered

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to customers is for airline tickets from one or more unrelated airline ticket providers that are each a competitor airline, wherein the predicted future offered prices for one or more of the identified airline flights of a competitor airline are lower than the currently offered prices for those airline flights such that the time predicted for those airline flights is a later time, and wherein the using of the predicted times to advise a customer related to a current purchase of an airline ticket includes immediately lowering current prices on one or more of the airline flights of the organization and notifying the customer that the current prices on the airline flights of the organization are lower than the currently offered prices for airline flights of one or more of the competitor airlines.

12. (Original) The method of claim 1 wherein the using of the predicted optimal airline ticket purchase times to advise a customer related to a current purchase of one or more airline tickets is performed for a fee from the customer and/or from unrelated airline ticket providers that offer the tickets and/or from an intermediate seller from whom the one or more airline tickets can be acquired.

13. (Original) The method of claim 1 including responding to each request from a customer for information about airline flight prices by providing at least one Web page to the customer that includes information about a current offered price for each of one or more of the identified airline flights that satisfy criteria in the request from the customer, and wherein the using of the predicted optimal airline ticket purchase times to advise a customer related to a current purchase of one or more airline tickets includes providing information as part of the Web page for the customer that provides advice regarding purchasing one or more of the identified airline flights at the current offered prices for those flights.

14. (Original) The method of claim 1 wherein the method is further performed for other purchasable items distinct from airline tickets.

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15. (Original) The method of claim 1 wherein the automatically determined pricing factors for each of at least one of the multiple airline flights includes multiple of an amount of time before the airline flight, a time of year of the airline flight, a degree of availability of airline tickets for the airline flight, a day of week for departure and/or arrival of the airline flight, a class code for the airline flight, a fair basis code for the airline flight, whether a current day is an advance purchase day for the airline flight, and behavior of competitors.

16. (Original) The method of claim 1 wherein the automatic determining of the pricing factors for the airline flights and/or the automatic predicting of the future prices that will be offered for identified airline flights and/or the automatic predicting of optimal times to purchase airline tickets for the identified airline flights includes using multiple of statistical-based learning, reinforcement-based learning, rule learning, machine learning, and ensemble-based learning.

17-67. (Cancelled)

68. (New) A computer-readable medium having instructions embedded thereon for performing a method in a computing system of an organization to provide information about airline tickets to customers by using predictive pricing that is based on historical airline ticket prices, the method comprising:

in the computing system, retrieving information about prices for airline tickets that were previously offered to customers for multiple airline flights, each of the previously offered airline ticket prices specified by an airline ticket provider unrelated to the organization;

in the computing system, for each of the multiple airline flights, automatically determining pricing factors for the airline flight that are used to determine prices for the airline flight by the unrelated airline ticket provider for the airline flight, by

identifying from the retrieved airline ticket price information multiple previously offered prices for airline tickets for the airline flight; and

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analyzing the identified previously offered airline ticket prices to detect the pricing factors for the airline flight, the pricing factors corresponding to changes in the identified previously offered airline ticket prices; and

in the computing system, after the automatic determining of the pricing factors for the airline flights, and for each of multiple requests that are each from a customer for information about airline flights, automatically advising the customer, by

identifying one or more of the multiple airline flights that each satisfy criteria in the request from the customer;

retrieving information about current prices offered for the identified airline flights that are specified by the unrelated airline ticket providers for the airline flights;

predicting future prices that will be offered for the identified airline flights by the unrelated airline ticket providers for those flights, the predicting based at least in part on the determined pricing factors for those airline flights;

for each of the identified airline flights, predicting a time at which an airline ticket for the identified airline flight will be available for a lowest price, based at least in part on the predicted future offered prices and the current offered prices; and

using the predicted times to advise the customer related to a current purchase of one or more airline tickets.

69. (New) The computer-readable medium of claim 68 wherein the method includes automatically determining one or more sell-out factors for each of the multiple airline flights based on information about prior instances of the airline flights selling out, and wherein the prediction of each time is further based on a predicted sell-out time for the airline flight, the predicted sell-out time being based at least in part on the determined sell-out factors for that airline flight.

70. (New) The computer-readable medium of claim 68 wherein a predicted future offered price for one of the identified airline flights is lower than the current offered price for the one airline flight, wherein the time predicted for the one

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identified airline flight is at a later time corresponding to the predicted future offered price, and wherein the using of the predicted times to advise a customer related to a current purchase of an airline ticket includes currently selling an airline ticket for the one identified airline flight to the customer at a price that is lower than the current offered price for that airline flight but at least as high as the predicted future offered price for that airline flight, and wherein the using of the predicted times to advise the customer related to the current purchase of the airline ticket further includes delaying a purchase of that sold airline ticket from the unrelated airline ticket provider for that flight until the later time.

71. (New) The computer-readable medium of claim 68 wherein a predicted future offered price for one of the identified airline flights is higher than the current offered price for the one airline flight, wherein the time predicted for the one identified airline flight is a current time, and wherein the using of the predicted optimal airline ticket purchase times to advise a customer related to a current purchase of an airline ticket includes notifying the customer that the current offered price for the one airline flight is a price favorable to the customer, such that the customer should purchase an airline ticket for the one identified airline flight at the current time.

72. (New) The computer-readable medium of claim 68 wherein one of the requests from a customer is to be alerted if prices for an indicated airline flight are predicted to increase, wherein at a later time a predicted future offered price for the indicated airline flight is determined to be higher than a price that is currently offered at the later time for the indicated airline flight, and wherein the using of the predicted optimal airline ticket purchase times to advise the customer related to a current purchase of an airline ticket includes alerting the customer at the later time to purchase an airline ticket for the indicated airline flight at that time.

73. (New) The computer-readable medium of claim 68 wherein a predicted future offered price for one of the identified airline flights is lower than the

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price currently offered for the one airline flight at a current time, wherein the time predicted for the one identified airline flight is at a later time corresponding to the predicted future offered price, and wherein the using of the predicted optimal airline ticket purchase times to advise a customer related to a current purchase of an airline ticket includes notifying the customer at the current time to purchase the airline ticket at the later time.

74. (New) The computer-readable medium of claim 68 wherein a predicted future offered price for one of the identified airline flights is higher than the current offered price for the one airline flight, and wherein the using of the predicted optimal airline ticket purchase times to advise a customer related to a current purchase of an airline ticket includes currently offering to sell an airline ticket for the one identified airline flight to the customer at a current sales price and offering to provide at least a partial refund if an actual future offered price for that airline flight is lower than the current sales price.

75. (New) The computer-readable medium of claim 68 wherein one of the requests from a customer is to pay a specified price for an indicated airline flight at an indicated time, the specified price being lower than a current offered price for the indicated airline flight at the indicated time, wherein a predicted future offered price for the indicated airline flight at the indicated time is at least as low as the specified price, and wherein the using of the predicted optimal airline ticket purchase times to advise a customer related to a current purchase of an airline ticket includes currently selling an airline ticket for the indicated airline flight at the indicated time to the customer at the specified price but delaying a purchase of that sold airline ticket from the unrelated airline ticket provider for that flight until a later time.

76. (New) The computer-readable medium of claim 68 wherein the multiple customer requests correspond to prior requests for which the customers have already purchased airline tickets at prior times, and wherein the use of the predicted

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times to advise a customer is performed at a current time but in a manner as if the predicting of the future prices and the predicting of the optimal time were performed at those prior times, so as to determine at the current time if the customers could likely have completed the purchases of the airline tickets near the prior times but at lower prices.

77. (New) The computer-readable medium of claim 68 wherein multiple of the customer requests include requests to purchase airline tickets for an indicated airline flight at an indicated time, and including fulfilling those requests in an aggregate manner so as to hedge against price changes, the fulfilling including currently purchasing a subset of the requested airline tickets from the unrelated airline ticket provider for that flight and delaying purchasing of the other requested airline tickets from the unrelated airline ticket provider for that flight until a later time.

78. (New) The computer-readable medium of claim 68 wherein the organization is an airline that supplies airline tickets for airline flights of the airline, wherein the retrieved information about airline ticket prices that were previously offered to customers is for airline tickets from one or more unrelated airline ticket providers that are each a competitor airline, wherein the predicted future offered prices for one or more of the identified airline flights of a competitor airline are lower than the currently offered prices for those airline flights such that the time predicted for those airline flights is a later time, and wherein the using of the predicted times to advise a customer related to a current purchase of an airline ticket includes immediately lowering current prices on one or more of the airline flights of the organization and notifying the customer that the current prices on the airline flights of the organization are lower than the currently offered prices for airline flights of one or more of the competitor airlines.

79. (New) The computer-readable medium of claim 68 wherein the using of the predicted optimal airline ticket purchase times to advise a customer related to a current purchase of one or more airline tickets is performed for a fee from the

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customer and/or from unrelated airline ticket providers that offer the tickets and/or from an intermediate seller from whom the one or more airline tickets can be acquired.

80. (New) The computer-readable medium of claim 68 including responding to each request from a customer for information about airline flight prices by providing at least one Web page to the customer that includes information about a current offered price for each of one or more of the identified airline flights that satisfy criteria in the request from the customer, and wherein the using of the predicted optimal airline ticket purchase times to advise a customer related to a current purchase of one or more airline tickets includes providing information as part of the Web page for the customer that provides advice regarding purchasing one or more of the identified airline flights at the current offered prices for those flights.

81. (New) The computer-readable medium of claim 68 wherein the method is further performed for other purchasable items distinct from airline tickets.

82. (New) The computer-readable medium of claim 68 wherein the automatically determined pricing factors for each of at least one of the multiple airline flights includes multiple of an amount of time before the airline flight, a time of year of the airline flight, a degree of availability of airline tickets for the airline flight, a day of week for departure and/or arrival of the airline flight, a class code for the airline flight, a fair basis code for the airline flight, whether a current day is an advance purchase day for the airline flight, and behavior of competitors.

83. (New) The computer-readable medium of claim 68 wherein the automatic determining of the pricing factors for the airline flights and/or the automatic predicting of the future prices that will be offered for identified airline flights and/or the automatic predicting of optimal times to purchase airline tickets for the identified airline flights includes using multiple of statistical-based learning, reinforcement-based learning, rule learning, machine learning, and ensemble-based learning.

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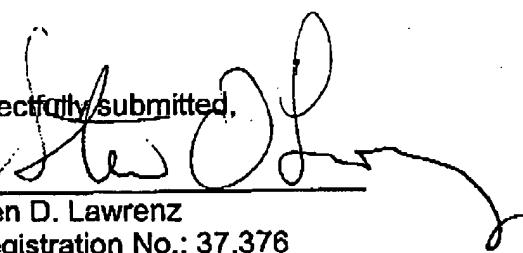
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**REMARKS**

Applicants believe no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 50-0665, under Order No. 430558001US1 from which the undersigned is authorized to draw.

Dated:

Respectfully submitted,

By 

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Attachments